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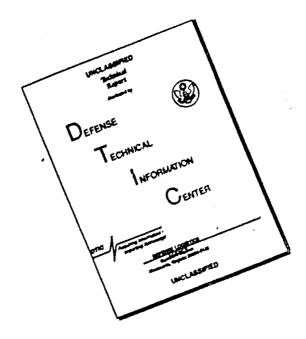
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DEPARTMENT OF THE ARMY

OFFICE OF THE ADJUTANT GENERAL WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (22 Nov 68) FOR OT UT 683376 26 November 1968

Operational Report - Lessons Learned, Headquarters, 168th Engineer Combat Battalion, Period Ending 31 July 1968

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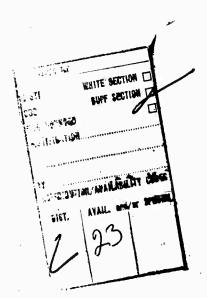
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168th Engineer Co.bat Battalion



DEPARTMENT OF THE ARMY
HEADQUARTERS, 168TH ENGINEER COMBAT BATTALION
APO US Forces 96289

EBA-CO

3 August 1968

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SUBJECT:

Operational Report of the 168th Engineer Combat Battalion for

Period Ending 31 July 1968, RCS CSFOR-65 (R1)

THRU:

Commanding Officer 79th Engineer Group APO US Forces 96491

Commanding General 20th Engineer Brigade ATTN: AVBI-OPN APO US Forces 96491

Commanding General

United States Army Engineer Troops, Vietnam (P)

APO US Forces 96375

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APO US Forces 96558

TO:

Assistant Chief of Staff for Force Development

Department of the Army (ACSFOR-DA)

Washington, D.C. 20310

FOR OT UT 68 3376

Inclosure

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Operational Report of the 168th Engineer combat Battalion for Period Ending 31 July 1968, RCS CSFOR-(* (R1)

1. Section 1. Operations: Significant Activities.

- General. The 168th Engineer Combac Battalion, beginning its third year in Vietnam, continued its dual mission of combat support and base construction throughout the III Corps factical Zom . The Battalion retained its normal disposition with Headquarters, Headquarters Company, Company A, Company D, the 557th Engineer Company (LE), the 168th Land Clearing Task Force located at Di An; Company B and one equipment platoon from the 557th Engineer Company (LE) at Lai Khe; and Company C supported by one platoon of the 557th Engineer Company (LE) at Quan Loi. From this disposition, operational support missions were conducted for the lst Infantry Division, 25th Infantry Division, 11th Armored Cavalry Regiment, 199th Light Infantry Brigade, II Field Force Artillery, Korean Construction Group and 5th Special Forces Group. The battalion continued to perform diversified and challenging combat support missions. Increased emphasis was placed on missions requiring specialized, air mobile techniques. Construction effort was directed toward the '1st Infantry Division base camps at Di An, Lai Khe, and Quan Loi, RVN.
- b. Command. Lieutenant Colonel John E. Schweizer assumed command of the battalion on 7 May 1968, replacing Lieutenant Colonel John R. Manning, who departed on normal rotation to CONUS. Major Robert C. Riese, Executive Officer, departed for assignment to Headquarters, II Field Forces, on 10 June 1968, and was replaced by Major Francis L. Hanigan who was assigned to the Lattalion on 26 June 1968. CW3 Donald F. Lane, Major Peter J. Offringa, and ILT Alfred M. Archibald continued in their assignments as S-1, S-3, and S-4 respectively. ILT Gordon Nelson, who rotated to CONUS, was replaced as S-2 by ILT William T. Jones on 2 May 1968. ILT William B. Nowell was replaced as Engineer Equipment Maintenance Officer by LLT Melvin C. Lynch, Jr. Captain Wayne W. Marsh departed the command on 18 July 1968 and gave his command of Headquarters Company to LLT Rodger V. Warren on 15 July 1968. CPT William 1. Navas arrived from Germany to replace Captain Douglas E. Helen as the commander of Company Λ on 12 June 1966. LLT James D. Baum order assumed command of the 168th Land Clearing Task Force 17 June 1968, and was replaced in his former command of Company E by 1LT Robert O. Fkdahl on 15 Jume 1968. Captain Lucion E. Dornard, ILT Floyd G. Willoughby, and Captain William F. Allison, Jr. remained in command of Company C, Company D and the 557th Engineer Company (LE), respectively during the ontire quarter. A current or animational chart is attached as Inclosure 1.
 - c. Personnol. idministration. Morale. and Discipline.
- in Throughout the quarter, the battalion's strongth remained relatively stable with no rotational hump occurring during the period. The

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reduced turnover of personnel has had a stabilizing offect on work production by the individual soldiers. The continuing problem of lack of experience in the middle NCO grades is chronic, and the outlook for the mear future shows little improvement. Officer strengths show stability, with a general shortage of captains and a influx of lieutenants who lack both experience and engineer schooling or degrees.

- (%) The 168th Engineer Battalion Open Moss operations have received considerable considerable considered attention, and operation of the mess is considered satisfactory. As of 25 June 1965, total assets of the Open Moss were \$84,000 with a gross income during June of approximately \$27,500. The command goal is to return of a maximum of the net profit to the membership by increased benefits and entertainment.
- (3) The following is a list of significant personnel actions accomplished in the battelien during the past quarter:
 - (a) Surmary Courts Martial: 1
 - (b) Special Courts Martial: 4
 - (c) Foreign Service Tour Extensions: 79
 - 1. Legion of Morit: 2
 - 2. Air Modals: 16
 - 3. Dronzo Star (Valor): 3
 - 4. Bronze Star: 21
 - 5. Army Commendation Modal (Valor): 6
 - 6. Army Commondation Medal: 49
 - 7. Purple Heart: 41
- d. Intelligence: The S-2 Section conducted continuous reconnaissance throughout the battalien's area of responsibility. Reconnaissance of forward airfields was conducted nonthly. Work estinates and priorities were compiled to assist Company D in its naintenance mission for 14 forward airfields. Lines of communications were continuously surveyed to insure that work estinates remained current. A comprehensive reconnaissance of Route 13 from Lai Whe to An Loc assisted Company D and Company C in programming offert for LOC naintenance. The S-2 Section provided two non-commissioned efficers to assist the Special Forces in tactical denolition

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missions near the Cambodian border during the period 17 May - 4 Jun. The battalion defensive perimeter was refined by the installation of additional tactical wire, perimeter lighting, claymore mines and trip flares.

c. Plans, Operations, Training.

(1) Plans: The Battalion S-3 planned and organized all major operations. In addition, plans were formulated for twolve new "design and construct" directives received from the 79th Engineer Group. Facilities designed included two dog kennels, a theater-chapel, one 20-ton ice plant, a brigade hoadquarters, and a 7200 foot electrical distribution system. In addition, plans were developed for the upgrading of forward airfields at Katum, Thien Mgon and Tonle Chon; the construction of a C7%, type II airfield at Tra Cu and an infentry defensive position and refueling and rearming complex at Song De.

(2) Operations:

- (a) Combat Support: The batt lion's combat support effort was expended principally in the areas of forward airfield construction and upgrading, land clearing, and construction and repair of roads and lines of communications. The air mobile equipment of Company D was committed to major operations for the first time during this quarter. Major combat support operations included:
- 1. Forward Airfield Repair Lunard (26 March 1968 2 May 1968). The Second Platoon, Company D, was airlifted to Eunard Special Forces Camp from Chi Linh Special Forces Camp on 26 March 1968. The airfield was graded and recompacted. The parking apron was partially resurfaced utilizing 1,720 cubic yards of laterite. In early april 1968, equipment support base adjacent to the Special Forces Camp. The runway, parking arron, and turneround were sealed with penoprime. Personnel and equipment were extracted to Di An on 2 May 1966 (See Inclosure 2, After Action Report Eunard)
- 2. Forward hirfield Repair Due Phong (10 April 1968 4 July 1968). On 10 April 1966, the Third Platoon, Company D, began upgrading the airfield supporting Due Phong Special Forces Camp. A 245'x300' parking apron was constructed utilizing 7,660 cubic yards of laterite. The turnerounds were widened and drainage provided. In early May, erosion of the runway caused by heavy rains necessitated a major upgrading of the southern 600, feet of runway. Additional equipment was airlifted to the site. Seven hundred-fifty cubic yards of laterite were used to improve the runway drainage. The runway, parkin apron and turneround were scaled with

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peneprime. The task force was extracted on 9 July 1968. (See Inclosure 3, After Action Report - Duc Phong)

- Land Clearing Operation Giant Swath (1 May 1968 11 June 1968). The 168th Land Clearing Task Force returned to the 1st Infantry Division Area of Operations to provide juncle clearing support during Operation Giant Swath. The objective of Giant Swath was to provide surveillance lanes from the Michelin Plantation to the Song Be River, clear access lanes into the area of the "Iron Trapezoid" and construct an overland line of communications from Route 13 into the Michelin Plantation. Two land clearing teams were employed, the 168th Land Clearing Task Force and the 86th Land Clearing Team. Security was provided by the 3d Brigade, 1st Infantry Division. The Land Clearing Task Force initially cleared a 1000 meter wide surveillance strip east of Route 13 toward the Song Be River. An area was cleared for future use as a fire support base. The Task Force was then moved to the "Iron Trapezoid" where a series of 200 meter wide swaths were cut to provide access for heliborne assaults into the area. The operation was plagued by maintenance problems caused by the heavy jungle and excessive age of the tractors. Enemy activity, though light initially, increased as the task force penetrated deeper into the area. During the final week of clearing, 3 tractors were declared combat losses as a result of enemy mines. The operation was terminated on 11: June 1968 with 4096 acres cleared. (See Inclosure 4, After Action Report - Giant Swath)
- 4. Road Construction Dau Linh Province Road (1 May 1968 3 June 1968). During Operation Giant Swath, Company B assisted the 1st Engineer Battalion in the construction of an all-weather road from Route 13 to the Michelin Plantation. Initially, a plateon from Company B, augmented with six 290M tractors with scrapers, expanded a pioneer road, constructed by the 1st Engineer Battalion, into a two lane all-weather road. After 6.3 kilometers were completed, heavy rains made use of the 290M tractors impractical; and Company B assumed responsibility for construction of portions of the pioneer road utilizing dump trucks. During the course of the operation, 2460 cubic yards of laterite were placed. The road was completed on 3 June 1966.
- 5. Forward Airfield Construction Tra Cu (15 May 1960 in progress at end of reporting period). The Second Plateon, Company D, was airlifted by rotary wing aircraft from Di An to the Special Forces Camp at Tra Cu. The plateon's mission was to construct a C7A, type II airfield. Decause no source of fill was available, lime soil stabilization of the available delta clay was chosen as the method of construction. Heavy Mensoon rains severely hampered construction during the first 60 days. Utilizing one D5 dezer, two D2 dezers, two graders and one MRS 100 scraper, the airfield was shaped and crowned. Drainage was established by construction

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of a series of lateral ditches. The saturated soil conditions necessitated a large amount of hand work. At the close of the reporting period, the airfield was filled and crowned to grade. Lime stabilization of the field by 100-foot sections will commence during the next quarter and a wearing surface of M8Al matting will be placed. Completion date is set for 20 September 1968.

- 6. Forward Support Base Song Be (4 June 1968 in progress at end of reporting period). The Third Platoon, Company D, was airlifted to Song Be by C-130 and CH-47 aircraft on 4 June 1968. Construction was begun on a new night defensive position for the infantry security battalion, a ten point refueling system, a five point rearming system, and a new ammunition supply point. Concurrently, the C-130 runway was repaired and the parking apron and turnarounds repeneprimed. By 31 July 1968, the defensive position was completed and the refueling system was 85% complete. Completion date for the entire project is 20 August 1968.
- 7. Land Clearing Operation Lam Sam (5 July 1968 in progress at time of report). The 168th Land Clearing Task Force continued supporting the 1st Infantry Division in land clearing operations along TLIA and LTLI6 west of Ten Uyen. Jungle is being cleared for 1000 neters parallel to the roads. Production has been unusually high. The Task Force has averaged better than 400 acros each day. Security is being provided by a troop from the 11th Armored Cavalry Regiment. Enemy action has been light. Three tractors have been demaged by mines, and three men have been WIA.
- S. LOC Maintenance. The battalien retained responsibility for naintenance of 264 kilometers of Route 13, the main supply route for the 1st Infantry Division. Both scheduled maintenance and energency repair of enemy interdiction were accomplished. The bypass around the Lai Khe base camp was upgraded in early May. More than 5000 cubic yards of laterite were placed, shaped and compacted. The portion of Route 13 within the Lai Khe base camp was recapped using 1720 cubic yards of laterite. On two occasions, Company B noved plateon-sized task forces to fire support bases along Route 13 for extended upgrading efforts. During the reporting period, 6.2 kilometers of Route 13 were upgraded utilizing 5,670 cubic yards of laterite. Company B responded to reaction force missions on Route 13 on 11 occasions. Might craters were filled, four blown culverts were replaced, and 16 kilometers of road were swept for mines.
- 9. Local Socurity. The battalion retained responsibility for two kilometers of defensive born at the Di in base comp. The companies at Quan Loi and Lai Khe served as ready reaction forces for their respective base comps. Twice weekly, Company C provided a plateon sized security

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force to the Quan Loi perimeter to free infantry troops for night ambush patrols. The battalion frequently provided its own job site security since tactical elements were often committed to higher priority missions.

- 10. Other Combat Support. The battalion provided equipment support, technical assistance, and on-call combat support to tactical units within its area of operations. Company B and Company C provided mine sweep teams, expedient road repair crews, and equipment support as required to all 1st Infantry Division operations in the vicinity of Lai Khe and Quan Loi. The Armunition Sapply Point at Lai Khe was expanded under an operational support directive. During Operation Giant Swath, dozors, leading equipment, and dump trucks were provided by Company B to assist the 1st Engineer Dattalien in their read construction mission. Company C constructed four revotnents for junpads for the 175mm jun battory at Quan Loi. The battalion maintained a ready reaction force capable of accomplishing energency repairs to forward airfields within its area of responsibility. A squad-sized repair force from Company A effected omergency repair of the cirfield at Katum Special Forces Camp from 18 -21 June 1966. The work force then flew to Thien Ghon Special Forces Camp where the rutted condition of the runway had closed the airfield. The a airfield was repaired within two days and the task force extracted (See Inclosure 5, Ifter Action Report - Thein Ghon, Katum). On 5 May 1968, Company ! provided demolitions support to the 5th Special Forces Group by destroying unexploded enumition. Six hundred-fifty items of ordnance were demolished. The battalien's ready reaction force at Di .hn removed roadblocks and filled craters interdicting local roads. A plateon from Company . was cirlifted on two hours' notice to assist the ARVI Engineers in the construction of 850 feet of floating bridge at Ben Luc (See Inclosure 6, Lfter Action Report - Ben Luc Bridgo). Equipment support was provided at all base camps for bunker construction, clearing fields of fire, opening and closing night defensive positions, and hauling fill to weatherproof fire support bases.
- (b) Centoment Construction. During the reporting period, construction continued at the Di An, Lai Kho and Quan Loi base camps. No additional centoment directives were received. The battalien inaugurated construction on housing for MICV advisory teams at 9 locations within its area of operations. Significant progress was made at the Di An and Quan Loi base camps, and assistance was rendered to the 34th Engineer Dattalien at Lei Kho.
- 1. Di An. Companies A and D continued construction of the main base camp for the 1st Infantry Division Support Command and the adjacent camp for the 2nd Drigade, 1st Infantry Division. On the main base, production included one 21,000 water point with four fill stands, eight grease racks, 54,000 square yards of hardstand, 6.2 kilometers of interior road, 380

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linear feet of culvert, and 6,200 feet of drainage ditches. The unin base is now 94% complete, up 4% from the previous quarter. In the 2nd Brigade area, construction completed during the reporting period included one 10,500 gallon water point with four fill stands and one 8 run deg kennel. The 2nd Brigade area is now 98% complete. The Di An construction program is scheduled for completion during the next quarter.

- 2. Lai Kho. Company B, supported by a plateon of the 557th Engineer Company (LE), assisted the 34th Engineer Battalion on base construction projects for the 3rd Brigade, 1st Infantry Division. During the period 1 May 1966 to 31 July 1966, the following construction was completed: One 40'x210' Post Exchange, five 30'x32' maintenance buildings, 62,800 square foot of hardstand, 11.3 kilometers of interior reads and 740 foot of culvert. Minimum essential requirements (MER) were provided for the 1st Military Police Detachment, 1st Military Intelligence Detachment and Division Artillery.
- 3. Quan Loi. Significant progress was made by Company C on the base construction program for the lst Brigade, lst Infantry Division. Facilities constructed to date include one 40°x200° post exchange, two 40°x56° ucrehouses, one 30°x76° theater-chapel, one 32 run, 20°x110° dog kennel, twenty-five 16°x32° mass halls, one 20°x52° commo-crypto building, one 40°x96° enlisted man's club, one 20°x52° DOQ, three 30°x32° maintenance buildings, 13.2 kilometers of interior reads, 3200 foot of ditches and 460 fact of culvert. The base construction program is now 72% complete. Construction is underway on maintenance buildings, grease racks, a service club, brigade headquarters and 7200 feet of electrical distribution lines. The project is scheduled for completion on 1 October 1968.

(3) Training:

- (a) The 168th Land Clearing Task Force conducted a three day training program to enable their new operators to gain preficiency in the operation of the Rome Plow. The program consisted of instruction in the operation and maintenance of the DTE tractor and one day of supervised operation of the Rome Plow in a tactical operation. Twenty-four new operators were trained during the three day program.
- (b) Company A was the first company of the battalion to undergo the 79th Engineer Group's training program in construction of the MAT6 bridge. The first day of training was classroom instruction devoted to site organization, composition of work parties, and techniques of bridge construction. The second day was a practical exercise consisting of tower construction, trastle erection, and float and raft construction. Two more line companies will undergo training in the MAT6 bridge during the next quarter.

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- (c) A series of maintenance training periods was conducted for each company by the battalien maintenance section. A thirty minute course of instruction on maintenance characteristics of specific types of engineer and ordnance equipment was given weekly to each company. A different piece of equipment was covered each week. This program will continue through the next reporting period.
- (d) The battalion continued to conduct training courses in accordance with USARV Regulation 350-1. Replacement training was accomplished through Replacement Training Schools conducted by the 1st Infantry Division. Weapons familiarization was accomplished utilizing 1st Infantry Division facilities.
- Logistics. During the closing quarter of the Fiscal Year 1968, the 165th Engineer Combat Estalion continued to received excellent support form the 506th Field Depot on issue of both major items of TO&E equipment and construction natorial. The 506th continued to move supply agencies from Saigon to Long Dinh, making these agencies more easily accessable to individual engineer units. Some ten ton-wheeled tractors were released for issue during this period, but DTE crawler tractors and pioneer clectric tool sets are still not available. One quarter-ton utility trucks have arrived in country in large shipments in which three were issued to the 168th Austrace Combat Bettalion. Twelve additional pieces of air nobile engancer equipment were received during the quarter giving the battalion 69% of the major items authorized by the "air nobile package". Engineer Construction Natorial Yard (ECMY), an agency of 506th Field Depot, showed a general increase in issue of Class IV natorial. Such items as large diameter culvert, peneprine, and heavy timber became readily available, but 1" thick lumber in 4" to 10" widths, crossoto poles of 40' length and longer, 2" plumbing fixtures, and 6"x6" wire mosh for roinforcing concrete have been increasingly difficult to obtain. A new autonatic data precessing system has enabled ECMY to cut the time required to release material available at the depot. The following table shows the time normally required for construction naterial to be released once a requisition has been submitted:

PRIORITY	RELEASE ITEM
02 (Hand Carried)	2 days
02	1 week
C5	2 - 3 wocks
12	4 - 52 weeks

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First Logistical Command's policy of shipping all construction material by rail has reduced the transportation and manpewor requirements of the battalion. Material shipped by rail is unlocated one quarter mile from the storage yard. Two trucks are then able to haul the same quantity of materials in a twolvo hour period as twenty trucks could transport from Long Einh during the some time frame. This releases drivers and trucks for other missions, but it seriously overworks this unit's one forklift. A request for temporary loan of one additional forklift has been submitted. Class IV storage facilities are being upgraded in anticipation of the coming Monsoon Sonson. Excess itoms were turned in and unserviceable itoms were disposed of. Low areas were filled with laterite, graded, and shaped as natorial was redistributed within the yard. Itoms sensitive to water damage which could not be placed in the limited warehouse facilities were placed on well drained pads and covered with available salvage canvas and salvage T-17 membrane. The S-4 Section published 166th Engineer Combat Battalion Regulation Number 735-1 requiring closer control of all construction natorial handled by line units. During the reporting period, S-4 directed the movement of 19,324 tons of Class IV supplies. All resupply of forward elements was accomplished by armed convoy, fixed wing airlift from Bien Hoa Air Base, and rotary wing airlift from the battalion helipad at Di An. The following figures indicate the volume of construction material moved:

LOCATION	TONNAGE	REMARKS
Saigon to Di in	185	
Long dich to Di Am	7527	,
Long Cinh to Di An	811	By Moll
Lai Khe to Di Am	31	
Di dn to Lai Khe	440	
Di An to Quan Loi	1567	
Di in to Local ireas	2660	•
Di An to Phu Loi	5534	
Di .in to Dion Hoa	71	For fixed wing airlift to Song De
Di An to Dion Hon	196	For fixed wing airlift to Due Phong
Di in to Tra Cu	144	Dy rotary wing airlift
•	10	

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During the reporting period, the S-4 Section produced 530,000 gallons of potable water in support of two combat operations, one forward sirfield construction site, and one training site. The training site at Di An is operated to familiarize operators with water purification equipment and operations, to keep equipment in peak operating condition, and to supplement the PASE operated "deep well" water points. Most problems involved with field operations of water purification units stemmed from poor raw water sources. In some cases, the source used was the only one available; but many problems could have been eliminated had supported units allowed the purification unit operators to conduct an engineer recommaissance and select the best available site (See Inclosure 7, Memorandum for Record, Field Operation of the 1500 GPH Water Purification Set).

- g. Force Development. The battalion continued the development of new organizational and operational techniques to neet the requirements of its unique mission. During the reporting period, the hir Mobile Company and the Land Clearing Task Force were refined; and those innovations already introduced were developed more fully.
- (1) Company D was fully committed to air mobile operations during the reporting period. Missions included the upgrading of a forward airfield at Duc Fhong, construction of a refueling system and battalion night defensive position at Song De, and the construction of a C7A type II airfield at Tra Cu. The air nobile equipment has been proven wall suited to this type of mission. The mission at Tra Cu was particularly suited to use of the air nobile equipment since the area was accessible only to retary wing aircraft. Integration of the equipment into a line company has provided adequate supervision, skilled operators and sufficient specialized equipment. Company D currently has sufficient missions programed to keep it fully committed for the next year.
- (2) The Land Clearing Task Force underwent minor modifications during the reporting period. Additional maintenance capability and increased mobility were sought. A temperary authorization request was submitted in early July. Major items of additional equipment requested included three M546 tracked carriers, two contact trucks, one 300 ampere are welder, and eight PRC 25 radios. These changes are currently being incorporated into a revised MTO&E to be submitted during the next quarter.
- h. Command Management. The nagmitude and scope of the battalion's mission demanded the application of sound management techniques. The Battalion Executive Officer monitored the battalion's command management program. Significant areas are listed below.
- (1) Daily operations meetings were conducted at battalion and company level to organize projects and insure efficient allocation of the battalion's resources.

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- (2) The battalien's command management team conducted periodic inspections of subordinate units. Frequent staff visits to outlying companies were encouraged.
- (3) At the completion of Operation Giant Swath, all D7E tractors belonging to the 160th Land Clearing Task Force underwent a thorough technical inspection by the 610th Maintenance Dattalion. The objective of this inspection was the determination of serviceability criteria for D7E tractors. It was determined that tractors having the following characteristics should be removed from land clearing terms:
 - (a) More than 2500 hours of operation.
- (b) More than two replacements of major assemblies, i. e. engines, transmissions, etc.
- (c) Inoporative major assemblies that are not available in Vietnam, i. e. torque converters.

Using these guidelines, 15 tractors were declared unserviceable for land clearing operations and were replaced with newer tractors.

- i. Inspector General: Major Francis L. Hanigan was appointed as acting IG for the battalion as a replacement for Major Riese. This headquarters received no formal IG complaints during this period. However two such complaints were presented to the USARV IG during his Annual General Inspection 3 7 June 1966. Both complaints were resolved to the satisfaction of the individual and the Army.
- j. The battalion information program provided coverage for major accomplishments of the battalion. Individual performance was recognized through the submission of home town news releases. During the reporting period, 116 news releases were submitted to the 79th Engineer Group. Each company of the battalion submits a weekly information report to the battalion concerning significant events taking place in the individual company. The weekly information reports are reviewed and edited by the battalion PIO. Those reports containing news worthy information are prepared and submitted to 79th Engineer Group in the form of a news article. During the reporting period, 15 articles were submitted. The battalion received news coverage in several military publications. The Land Clearing Task Force was interviewed by Time Magazine in late July 1968. Publication of the battalion newspaper, The Five Star Review, was resumed to give local news coverage to the numbers of the battalion.

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k. Civic Affairs: During the reporting period, the battalion continued to assist and support the Go Vap II Orphanage, the Xuan Truong Orphanage, and the Saint Therese School. Assistance rendered consisted of distribution of excess foodstuffs from unit mess halls, MEDCAPS by the battalion surgeon, and English classes by the battelion chaplain. Total amount of foodstuffs collected was 2300 pounds. In addition, approximately 40,000 pounds of edible gerbage were distributed for livestock use. Voluntary contributions totaling 34,600\$VN have been given to the Tan-Hai refugee village for the construction of a now church. 40,000\$VII were contributed to the Di An District for the construction of tables and desks for the three-room addition to the Di an High School. The addition was completed by the battalien on 20 April 1968. The battalion surgeon and a member of the 257th Medical Detachment distributed 300 dental kits to the Go Vap II orphanage. The children were instructed in dental hygiene and use of the dental kits. Clothing and scrap naterials were distributed to the orphanages. Company C. 168th Engineer Combat Battalion is now maintaining an underpriviledged children's day-care clinic in the village of An Loc. The clinic provides supervision for 32 children whose parents are separated or missing. The men of Company C have collected \$50 for the purchase of scap and beds for the children. Company C is now constructing a cooking shelter, and an outdoor oven. Medical care is provided twice weekly by qualified medical corpsmen. The men of Company C also take time out to teach the youngsters baseball and childrens' games.

- 2. Section 2. Lessons Learned: Commander's Observations. Evaluations and Recommendations:
 - a. Personnel: Awards and Decorations
- (1) OLSMATION: AR 672-5-1 restricts award of the Combat Modical Dadge to members of the Army Medical Corps who are permanently assigned to infantry units of a brigade, regimental, or smaller unit.
- (2) EV.LU.TION: The criteron for the award is that the infantry unit to which the individual is assigned must have been in contact with the enemy. Experience in Vietnan shows that units other than infantry units are frequently under hostile fire. One unit of this battalion received a total of 41 wounded personnel during the past quarter. A considerable number of these were the result of direct enemy fire. The medical corpsum assigned to this unit worked side by side with the medical corpsum of the infantry security element treating engineer and infantry soldiers wounded in the same action. The medical corpsum assigned to the 1st Infantry Division is eligible for award of the Combat Medic Badge. The medical corpsum assigned to this Engineer Battalion is not, creating an inequity of award eligibility, even though the service rendered was identical.

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- (3) RECOMMEND.TION: It is recommended that performance requirements for award of the Combat Medical Dadge be reviewed to insure that present criteria are not outmoded by the style of warfare encountered in this present conflict.
 - b. Operations:
 - (1) Soaling Prefabricated Water Tanks
- (a) OBSERVATION: Obtaining a uniform setting of scaling compound is one of the principle problems in assembly of profabricated water tanks.
- (b) W.LU.TION: During daylight hours, the steel panels of the tank become heated by sunlight. This heat retards setting of sealing compound.
- (c) NECCREME.TION: Application of sealing compound in the late ovening will eliminate non-uniform setting.
 - (2) Construction of Profabricated Water Tanks.
- (a) OBSERVATION: During the construction of prefabricated water tanks, difficulty was experienced in getting the bolts and holes to line up.
- (b) FV.LU.TION: A significant number of man-hours were lost during water track construction when nuts were tightened as soon as they were installed. Looks resulted from improperly fitted joints.
- (c) PECOMEND.TION: All nuts should be loosely installed until the tank is completed. They should be tightened only after all bolts are in place.
 - (3) Construction of Mino Booms
- (a) OBSERVITION: Balk sections of MAT6 bridging are an acceptable component for construction of mine booms.
- (b) EV.LU.TION: When constructing floating bridges in built-up areas, suitable materials for fabrication of nine beens frequently are in short supply. Logs or timbers are normally not available or are utilised for cribbing approaches.
- (c) RECOMMEND.TION: Large balk sections from MAT6 bridging can be offectively used for an expedient mine boom.

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- (4) Fabricated Hinges
- (a) ODSERVATION: Strap hinges or butt hinges connot be effectively fastened to pipo or bricks.
- (b) EVALUATION: In construction of a dog kennel at Quan Loi, a simple hinge was fabricated from two l' long pieces of 3/4" diameter pipe and one 2" bolt. One piece of pipe was welded to the door frame, the other piece was welded to the door. The 2" bolt connected the two pieces of pipe.
- (c) RECOMMENDATION: This hinge provided the required strongth and installation simplicity for pipe or brick structures.
 - (5) Assembly of D-5 Dozor at Forward Locations.
- (a) OASERVATION: Assembly of D-5 dozers at forward locations is difficult and time consuming.
- (b) EVALUATION: Assembly of D-5 dozers after airlift to forward locations usually requires two to five hours. A major portion of the time is expended in jacking the dozer up and placing the tracks under the track frame.
- (c) NOTIFIED. TION: By properly scheduling aircraft sorties, the tracks can be lifted out first by CH-47. The tracks can then be positioned so that the CH-54 skycrane can place the tractor frame into the tracks. Proper application of these procedure will eliminate two hours of assembly time.
 - (6) Fabrication of a Skid System for the MRS 100 Tractor.
- (a) ODSERVATION: Since all overpacks for air nobile equipment are not presently available in Vietnam, there is no skid for disassembly and airlift of the MRS 100 tractor.
- (b) EVALUATION: Disassembly of the MRS 100 tractor for airlift requires the removal of the large rubber wheels. To prevent the chassis from resting on the ground, a skid must be placed under the main axles. Without this skid, airlift and reassembly are impossible.
- (c) RECOMMEND.TION: Using the figure in the namual as a guide, a skid can be febricated from sheet steel. This skid proved effective in the airlift of the MRS 100 tractor to Tra Cu.
 - (7) Additional Screening for Sump Pump.

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- (a) OLSERVLTION: Additional screening is required when using sump pumps to drain water where much foreign matter is present.
- (b) EVALUATION: During pumping operations in water containing a large amount of debris, pumps frequently become clossed. Increased maintenance time greatly reduces operational efficiency.
- (c) NECOMMENDATION: By cutting numerous 1" holes in the side of a 55-gallon drum and covering the sides with ordinary window screen, the required additional screening is provided. In addition, a stable base for the pump is provided.
 - v(ε) Drainage Ditches
 - (a) OBSERVATION: Vee ditches often fail during heavy monsoon rains.
- (b) EVALUATION: A grader is usually not able to cut a ditch capable of carrying the large volume of water from major storms. Experimentation at Lea Khe indicated that wide, flat bettened ditches were superior to wee ditches in areas where a large water flow is anticipated.
- (c) 6700FERRATION: Drainage plans for areas of heavy rainfall should include wide, flatbotton ditches cut with a dozer or scraper.
 - (9) land Clearing
- (2) OBSERVATION: Excessive "walking" of D7E tractors has a detrimental effect on the operational condition of the tractors.
- (b) EVALUATION: During Operation Giant Swath, overland novements of up to 7 kilometers each way were required by the Tactical Commander. It was found that after each long overland movement, the deadline rate increased consideriably.
- (c) NECOMMENDATION: Land Clearing Operations should be planned so that all cutting takes place within four kilometers of each established base camp.
 - (10) Land Clearing
- (a) ODSERVITION: When a base crum has been cleared, it should be occupied immediately.
 - (b) EVILLITION: During the latter part of Operation Giant Sucth, a

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base camp area was cleared in a heavily jungled area. The security then withdrew to another base camp for the night. The next day, while reentering the cleared base camp, four DTE tractors struck mines.

- (c) RECOMMENDATION: All base camps should be occupied immediately after clearing.
 - (11) Land Clearing
 - (a) OBSERVATION: Rome Plows should not be used as recovery vehicles.
- (b) EVALUATION: During Operation Giant Swath, a shortage of recovery vehicles in the field necessitated the use of DTE tractors to recover incapacitated APG's, tanks, and VTR's. Tractors used for this purpose usually suffered damage.
- (c) RECOMMENDATION: When planning a land clearing operation, sufficient recovery vehicles should be programmed so DTE tractors do not have to perform this mission.
- (12) Land Clearing
 - (a) OBSERVATION: Air control is essential to effective jungle clearing.
- (b) EVALUATION: A shortage of aircraft during Operation Giant Swath caused many cuts to be made without air guidance. In almost all cases, the imitial cut was made improperly; cutting time was lost rerouting tractors; and control of the plows was difficult.
- (c) RECOMMENDATION: When planning a land clearing operation, one sircraft should be made available exclusively to the Land Clearing Task Force for the initial cut in the norming, the final acreage estimate in the afternoon, and two or three other times during the cutting day.
 - ~ (13) Airlift of Dozer Blades
- (a) OBSERVATION: Dozer blades tend to rotate when slung from rotery wing aircraft.
- (b) EVALUATION: Excessive rotation of airlifted cargo causes abrasion of the sling and possible failure. In addition, a safety hazzard is created, since rotating cargos made aircraft more difficult to control.
- (c) RECOMMENDATION: A parachute, 51 in diemeter, attached to each corner of the upper end of the blade significantly reduces rotation.

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- (14) Installation of Masonite
- (a) OBSERVATION: Masonite, when subjected to the air, will expand 1/8 inch.
- (b) EVALUATION: During construction of the Lai Khe Post Exchange, the masonite placed on the walls and ceilings expanded.
- (c) RECOMMENDATION: Whe installing masonite, the bundle should be broken and the sheets separated. The separated sheets should stand for at least 24 hours prior to installation.

c. Intelligence

- (1) Compaction of Road Shoulders
- (a) OBSERVATION: Enemy mines are frequently found buried in the shoulders or roads.
- (b) EVALUATION: During road upgrading on Route 13, it was found that the Viet Cong were burying mines in the uncompacted shoulders of the road. Vehicles would occasionally drive on the shoulders. At least two vehicles were damaged by mines placed in the shoulders.
- (c) RECOMMENDATION: Compaction of road shoulders made burying of the mines more difficult. Detection was simplified because disturbance of the compacted shoulder was more easily recognized.
 - (2) Mounting Crew-Served Night Vision Devices.
- (a) OBSERVATION: There is no effective means of mounting the crewserved night vision device in observation towers.
- (b) EVALUATION: For base camp defense, night vision devices are required to be mounted in 36-foot observation towers.
- (c) RECOMMENDATION: A mount for a helicopter door gunner's machinegun can be modified to mount the sight. To the swivel head and bolt used for the M-60 machinegun mount weld a $\frac{1}{2}$ 'x2"x3" plate. This plate will then fit the slot on the bottom of the scope.

d. Logistics

(1) Increasing Sandbag Life

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- (a) OBSERVATION: Climatic conditions in Vietna cause rapid deterioration of sendbags.
- (b) EVALUATION: The average life of untreated sandbags in Vietnan is approximately eight months. Frequent replacement of sandbags wastes noney and nanpower.
- (a) RECOMMINDATION: A light coating of peneprine will more than double the useful life of sandbags.
 - (2) Expedient Radiator Repair
- (a) OBSERVATION: Radiators in forward locations that develop leaks must usually be evacuated for repair.
- (b) EVALUATION: Since new radiators are not readily available through direct exchange, equipment is often deadlined two or three days until a suitable replacement radiator is obtained. The leak can be repaired expediently by cutting the upper radiator between the water jackets, bending the ends and clamping them together with a pair of pliers. Then apply a generous coating of tubeless tire cement to the cut ends. The radiator is then useable until replaced or evacuated for repair.
- (c) RECOMMENDATION: A supply of tubeless tire cement should be maintained at forward locations for emergency repair of radiators.
 - (3) Substitution of Parts for Air Mobile Equipment
- (a) OBSERVATION: Repair parts for air mobile equipment are in short supply.
- (b) EVALUATION: It has been found that some parts for regular engineer equipment can be substituted when air mobile parts are not available. The oil filter from a 1-ton truck is interchangeable with the oil filter of the parametric roller. Hydraulic lines from a 5-ton dump truck can be used to replace the hydraulic lines of the backhoe. A non-pressure gasket can be substituted for the injection pump drive shaft pressure gasket on the D-2 dozer. When front and rear tires for the backhoe were not available, 1-ton ruck tires could be used for the front and grader tires for the back.
- (c) RECOMMENDATION: Interchangeable parts should be used whenever possible to avoid extended deciline.
 - (4) Repair of Wheel Cylinders on the 440 HA Grader

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- (a) OBSERVATION: There is a shortage of wheel cylinders for the 440 HA grader.
- (b) EVELUATION: Resupply through normal channels for the 440 HA grader is very difficult because most parts carry a manufactures's stock number and not a FSN.
- (2) ALGOMMENDATION: The cups and pistons of the M52, 5-ton dump truck are identical to those on the 440 HA grader. These wheel cylinder kits are of equal quality to the original parts.
 - (5) Land Clearing
- (a) OBSERVATION: Performance of scheduled maintenance at the proper time reduces deadline.
- (b) EVALUATION: The climatic conditions in Vietnam require periodic maintenance services to be required more frequently. For example, quarterly maintenance should be performed every 125 hours, rather than every 500 hours. To accomplish these services on schedule, otherwise operational DTE tractors must be kept in the base camp.
- (c) RECOMENDATION: Three plows should be left in base camp every day for scheduled maintenance. During this time a complete serviceing should be accomplished to include cleaning belly pans, flushing radiators, and a full technical inspection.
 - e. Organization:
- (1) OBSERVATION: Additional maintenance equipment is required by the 168th Land Clearing Task Force.
- (2) EVALUATION: During Operation Giant Swath, it become apparent that additional equipment was necessary to cope with the maintenance problems caused by heavy jungle, rough terrain and enemy nines. The Land Clearing Task Force was augmented with two additional contact trucks, a 3-ton crane to provide additional lifting capability, eight PRC 25 radies and one are welder. This additional communications equipment provided the necessary flexibility in command and control. The maintenance equipment enabled more expedicious repair resulting in a decreased deadline rate.

3. Section 2. Part II. Recormendations

a. The operation support missions performed by the battalion during

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this reporting period have presented unique challenges resulting in the lessons learned and recommendations included in Part I of this section. There are several significant, specific recommendations that can be derived from the experiences of the past quarter.

- b. The experiences derived by the 168th Land Clearing Task Force during Operation Giant Swath resulted in reassessment of several areas of Rome Plow doctrine. The operation was unique in its employment of Rome Plows to cut wide swaths through virgin jungle to provide access for heliborns infantry assaults. The importance of maintenance as the key to high productivity was again apparent. The importance of maintenining a rigidly controlled and closely supervised maintenance program, in spito of pressures to put every plow in the field every day, was illustrated by the decreased acreage and increased deadline during Operation Giant Swath. As a result of land clearing operations during the past quarter, the following recommendations are made.
- (1) A Standard Operating Procedure (SOP) for land clearing operations is needed to guide tactical commanders in the uses and limitations of the Rqme Plow. A proposed SOP is attached as Inclosure 8.
- (2) DTE tractors engaged in land clearing receive twice the wear that tractors in other uses receive. A program of tractor rotation, in which a DTE is used in land clearing until it no longer neets serviceability criteria and then is rotated to normal construction work, will provide more efficient land clearing operations. In addition, the useful life of these DTE tractors will be extended.
- (3) The key to efficient jungle clearing is good maintenance. Scheduled maintenance must be conducted as required even if otherwise operational plows must remain in the base camp for these services. Prossures to achieve high daily acreages at the cost of long term maintenance are self defeating.
- c. The operations conducted by Company D, the air nobile company, have proved the effectiveness of air nobile equipment for the battalion's missions in Victair. The construction of the Tra Cu airfield would have been impossible without the air nobile equipment. Air robile missions for Company D are currently programed through 1 January 1969. There is every indication this specialized equipment will continue to be in demand. Integration of this equipment into a company, rather than maintaining a "pool" for special missions, has empled proper maintenance and control of the equipment. The deadline rate for air mobile equipment approximates that for the battalion's standard equipment. One of the few limitations

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of the air nobile packet is the 3/4-ton dump truck. Weak axles and limited hauling capacity are the key limiting factors. Due to the weak axles, a load is unable to be spread without causing excess stress on the rear axles. On several occasions, the axles have snapped while attempting to spread a load. The limited hauling capacity limits the expeditions completion of operational support missions. Organic loading equipment is a 2½-cubic yard scoop loader which has a bucket larger than the bed of the truck, lending to overloading and safety hazzards to the driver. In general, the air mobile company is an unqualified success whose knowledgeable personnel, specialized equipment, and expertise in equipment airlift is much in domand. Therefore, I recommend:

- (1) The air nobile MTO&E proposed in last quarter's ORLL be reconsidered as the practical way to accomplish air nobile missions, while properly maintaining the equipment.
- (2) The air mobile company be utilized exclusively for specialized missions in isolated locations.
- (3) The company continue to be committed to no more than two separate construction sites.
 - (4) Duny trucks be of 22-ton type in place of the 3/4-ton type dump.

& Incl -as Withdrawn, HQ, DA John E. Schweizer

LTC, CE Commanding EXE-CO (3 Aug 68) 1st Ind SUBJECT: Operational Report of the 168th Engineer Combat Battalion for Period Ending 31 July 1968, RCS CSFOR-65 (R1)

DA, HAND JUANTERS, 79TH ENGINEER GROUP, APO 96491, 20 August 1968

TO: Commanding General, 20th Engineer Brigade, ATTN: AVBI-OS, AFO 96491

The Operational Report of the 168th Engineer Battalion (C) for the period ending 31 July 1968 has been reviewed. It is considered to be an adequate summary of the battalion's operational experience during that period.

Picket L. WEST Colonel, CE Commanding

AVBI-03 (3 Aug 68) 2nd Ind SUBJ SCT: Operational Report of the 158th Engineer Combat Mattalion for Period Ending 31 July 1968, RCS CSFCR-65(M1)

DA, HEARQUART RS, 20TH ENGINEER BLIGADE, APO 96491

SEP 2 3 1058

TO: Commanding General, US Army Vietnam, ATTN: AVHGC-DST, APO 96375

- 1. Cubmitted in accordance with USARV Regulation 525-15, dated 13 april 1908.
- 2. Reference Section 2, paragraph $\underline{d}(2)$: Concur; however, solder should be used if available.
- 3. Deference Section 2, paragraph $\underline{d}(3)$: Concur with the exception of the gasket substitution for the injector pump drive shaft. A non-pressure gasket could allow fuel oil to leak into the crankcase resulting in possible engine failure. This recommendation should be checked by a qualified technical representative.
- 4. Reference paragraph 3b(1): 20th Engineer Brigade has published a Land Clearing Guide to Tactical Commanders.

FOR THE COMMANDEM:

RICHARD J. TAYLOR

Assistant Adjutant

Copies Furnished: CG, 8th U5 Army CG, 18th engr Bde AVHGC-DST (3 Aug 68) 3d Ind MAJ Klingman/ds/LBN 4433 SUBJECT: Operational Report of the 168th Engineer Combat Battalion for Period Ending 31 July 1968, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 10 OCT 1968

- TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558
- 1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1968 from Headquarters, 168th Engineer Combat Battalion.

2. Comments follow:

- a. Reference item concerning criteria for award of the Combat Medical Badge, page 13, paragraph 2a: Nonconcur. This headquarters queried DA in January 1967 for clarification of paragraph 97A(1)(2), AR 672-5-1. DA's response, contained in unclassified message 29002, 19 January 1967, specifically states that Army Medical Service personnel assigned to Engineer, Artillery, Aviation, Armor or Cavalry units, are not eligible for award of the Combat Medical Badge.
- b. Reference item concerning substitution of parts for airmobile equipment, page 19, paragraph a(3); and 2d Indorsement, paragraph 3: Concur with 2d Indorsement, paragraph 3.

FOR THE COMMANDER:

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F. S. TAYLOR, JR. Major, AGC Asst Adjutant General

Cy furn: HQ 20th Engr Bde HQ 168th Engr Cbt Bn GPOP-DT (3 Aug 68) 4th Ind SUBJECT: Operational Report of HQ, 168th Engr Cbt Bn for Period Ending 31 July 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 1 4 NOV 1968

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

- 1. This headquarters has evaluated subject report and forwarding indorsements and concurs in the report as indorsed.
- 2. Reference paragraph 2a, 3d Indorsement: The criteria for award of the Combat Medical Badge in AR 672-5-1 are considered appropriate.

FOR THE COMMANDER IN CHIEF:

C. L. SHORTT

CPT, AGC Aus AG

Cy furn: CG USARV

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